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深圳北斗天芯科技有限公司

Shenzhen Tenet Silicon System & Technology Co.,Ltd

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深圳北斗天芯科技有限公司（简称"北斗天芯"）是一家专注于卫星通信抗干扰技术研发的国家高新技术企业，技术团队拥有20年北斗卫星体系建设经验。公司致力于提供全自研、全国产的卫星通信抗干扰产品和解决方案，服务于无人机、空中出租车、物流配送等工业及商业领域。

北斗天芯的愿景是结合卫星导航与抗干扰技术，为低空经济提供安全、可靠的导航服务，确保其安全、稳定、可持续发展。公司拥有强大的研发团队，研发出适应低空需求的高精度定位产品，如芯片、板卡和模组，确保在复杂地形、电子干扰环境下的稳定导航信号。

作为低空经济领域卫星通信抗干扰技术的领先供应商，北斗天芯持续优化产品与服务。公司团队以创新、协作、诚信为准则，作为低空经济领域的重要参与者和推动者，为中国智造贡献力量。

Shenzhen Tenet Silicon System & Technology Co., Ltd. (referred to as "Tenet Silicon") is a national high-tech enterprise focusing on the research and development of anti-interference technology for satellite communications. The technical team has 20 years of experience in building BeiDou satellite system. The company is committed to providing fully self-developed and nationally produced satellite communication anti-interference products and solutions, serving industrial and commercial fields such as drones, air taxis, logistics and distribution.

Tenet Silicon’s vision is to combine satellite navigation and anti-interference technology to provide safe and reliable navigation services for the low-altitude economy to ensure its safe, stable and sustainable development. The company has a strong R&D team to develop high-precision positioning products that meet low-altitude needs, such as chips, boards and modules, to ensure stable navigation signals in complex terrain and electronic interference environments.

As a leading supplier of satellite communication anti-interference technology in the low-altitude economy field, Tenet Silicon continues to optimize its products and services. The company’s team takes innovation, collaboration and integrity as the criterion, and serves as an important participant and promoter in the low-altitude economy field, contributing to China’s intelligent manufacturing.

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四阵元抗干扰终端

Four-Element Anti-Jamming Terminal

参数 Parameter

抗干扰能力：

单干：≥ 95dBc

双干：≥ 85dBc

三干：≥ 80dBc

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：65x65x21mm

功耗：≤6W(常温)

重量：≤130g

射频输出说明：

输出信号频率：1575.42MHz\1561.098MHz

输出功率：-75~-85dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥95dBc

Two≥85dBc

Three≥80dBc

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°，pitch:-90°~90°

Volume:65x65x21mm

Power consumption: ≤6w(room temperature)

Weight: ≤130g

RF output description:

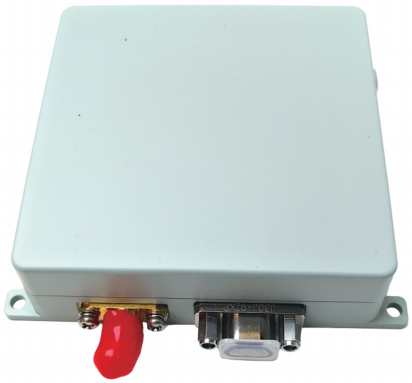
Output signal frequency:1575.42MHz\

1561.098MHz

RF output power:-75~-85dBm

Output impedance:50 ohms

【TX-S65-4CH-SNB】



描述 Description

TX-S65-4CH-SNB超小型化抗干扰一体机，为65mm口径的高集成度超小型阵列天线抗干扰终端。是一款面向中小无人机等行业用户需求的卫星导航抗干扰一体机，支持B1/L1频点信号的抗宽带干扰能力和定位功能。内部集成天线阵列、抗干扰组件以及卫星导航接收机，具有小型化、轻量化、低成本等特点。

The TX-S65-4CH-SNB miniaturized anti-interference all-in-one machine is an anti-interference terminal with a highly integrated miniaturized array antenna of 65mm caliber.It is a satellite navigation anti-interference all-in-one machine designed to meet the needs of industry users such as small and medium-sized unmanned aircraft, supporting the anti-wideband interference capability and positioning function of B1/L1 frequency point signals.It integrates the antenna array,anti-interference components and satellite navigation receiver internally,featuring miniaturization,lightweight and low cost.

四阵元B3抗干扰终端

Four-Element B3 Anti-Jamming Terminal

参数 Parameter

抗干扰能力：

单干：≥105dBc

三干：≥95dBc

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：150x130x26.5mm

功耗：≤17W(常温)

重量：≤500g

射频输出说明：

输出信号频率：1575.42MHz\1268.52MHz

输出功率：-70~-60dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥105dBc

Three≥95dBc

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°，pitch:-90°~90°

Volume:150x130x26.5mm

Power consumption: ≤17w(room temperature)

Weight: ≤500g

RF output description:

Output signal frequency:1575.42MHz\

1268.52MHz

RF output power:-70~-60dBm

Output impedance:50 ohms

【TX-009Pro-8CH-BD-WG-DT】



描述 Description

本产品型号为TX-009Pro-8CH-BD-WG-DT，是一款面向民用无人机、行业用户需求的小型化卫星导航抗干扰一体机，支持BDS-B1、BDS-B3、GPS-L1频点信号接收，支持B1/B3/L1抗宽带干扰能力，抗最大干扰数3。内部集成天线阵列、抗干扰组件以及卫星导航接收机，服务于无人机、无人车等可靠导航等领域，保护用户终端免受各类无意干扰、恶意攻击，大幅提升PNT信息安全性。

The product model TX-009Pro-8CH-BD-WG-DT is a compact satellite navigation and anti-interference integrate system tailored for civilian drones and industrial users. It supports dual-frequency signal reception of BeiDou-3 RNSS B1/B3 and features anti-wideband interference capability on B1/B3 frequencies with a maximum interference tolerance of 3.Internally integrated with antenna arrays,anti-interference components,and satellite navigation receivers,it serves reliable navigation in fields such as drones and unmanned vehicles,protecting user terminals from various unintentional interferences and malicious attacks,significantly enhancing PNT (Positioning,Navigation,and Timing)information security.

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四阵元L5抗干扰终端

Four-Element L5 Anti-Jamming Terminal

【TX-009Pro-8CH-L5-WG-DT】



参数 Parameter

抗干扰能力：

单干：≥105dBc

三干：≥95dBc

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：150x130x26.5mm

功耗：≤17W(常温)

重量：≤500g

射频输出说明：

输出信号频率：1575.42MHz\1176.45MHz

输出功率：-70~-60dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥105dBc

Three≥95dBc

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°,pitch:-90°~90°

Volume:150x130x26.5mm

Power consumption: ≤17w(room temperature)

Weight: ≤500g

RF output description:

Output signal frequency:1575.42MHz\1176.45MHz

RF output power:-70~-60dBm

Output impedance:50 ohms

描述 Description

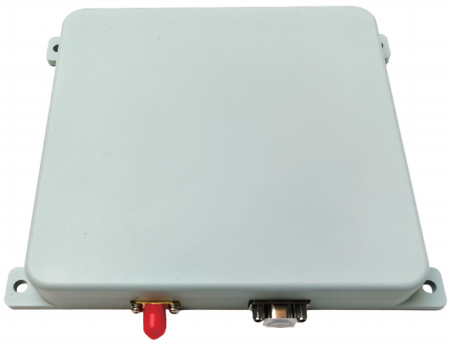
本产品型号为 TX-009Pro-8CH-L5-WG-DT，是一款面向民用无人机、行业用户需求的小型化卫星导航干扰一体机，支持 GPS L1、L5 和 Galileo E5 双频点信号接收，支持双系统抗宽带干扰能力，抗最大干扰数 3。内部集成天线阵列、抗干扰组件以及卫星导航接收机，服务于无人机、无人车等可靠导航等领域，保护用户终端免受各类无意干扰、恶意攻击，大幅提升PNT信息安全性。

The product model is TX-009Pro-8CH-L5-WG-DT,it is a miniaturized satellite navigation anti-jamming integrated device designed for civilian drones and industry users,supporting the reception of dual-band signals from GPS L1/L5 and GalileoE5, featuring dual-system anti-wideband interference capability,capable of withstanding up to 3 jamming signals.Internally integrated antenna arrays, anti-jamming components, and satellite navigation receivers serve reliable navigation applications such as drones and unmanned vehicles,protecting user terminals from various unintentional and malicious attacks,significatly enhancing PNT informalion security.

四阵元G1抗干扰终端

Four-Element G1 Anti-Jamming Terminal

【TX-009Pro-8CH-G1-WG-DT】



参数 Parameter

抗干扰能力：

单干：≥105dBc

三干：≥95dBc

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：150x130x21mm

功耗：≤12W(常温)

重量：≤400g

射频输出说明

输出信号频率：1561.098MHz\1575.42MHz\1602MHz

输出功率：-70~-60dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥105dBc

Three≥95dBc

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°，pitch:-90°~90°

Volume: 150x130x21mm

Power consumption: ≤12w(room temperature)

Weight: ≤400g

RF output description:

Output signal frequency:1561.098MHz\1575.42MHz\1602MHz

RF output power: -70~-60dBm

Output impedance: 50 ohms

描述 Description

本产品型号为TX-009Pro-8CH-G1-WG-DT，是一款面向民用无人机、行业用户需求的小型化卫星导航抗干扰一体机，支持BDS-B1、GPS-L1、GLONASS-G1三频点信号接收，支持三系统同时抗宽带干扰能力，抗最大干扰数3。内部集成天线阵列、抗干扰组件以及卫星导航接收机，服务于无人机、无人车等可靠导航等领域，保护用户终端免受各类无意干扰、恶意攻击，大幅提升PNT信息安全性。

The model of this product is TX-009Pro-8CH-G1-WG-DT.It is a miniaturized satellite navigation anti-jamming all-in-one machine designed for the needs of civilian unmanned aircraft and industry users.It supports the signal reception of three frequency points: BDS-B1,GPS-L1,and GLONASS-G1.It supports the simultaneous anti-wideband interference capability of the three systems,and the maximum number of anti-jamming is 3.It integrates an antenna array,anti-jamming components,and a satellite navigation receiver internally.It serves in fields such as reliable navigation for unmanned aircraft and unmanned vehicles,protects user terminals from all kinds of unintentional interferences and malicious attacks,and significantly improves the security of PNT information.

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四阵元双抗天线终端

Four-Element Dual-Anti-Function Antenna (Anti-Jamming and Anti-Spoofing)

【TX2501-AJS-4CH-DPA】

参数 Parameter

抗干扰能力：
单干：≥105dBc
三干：≥95dBc

抗欺骗性能：
输出残留欺骗信号CN0：≤20dB

干扰类型：
带限高斯白干扰、扩频匹配谱干扰
脉冲干扰、扫频干扰
混合干扰

抗干扰空域、方位： 0~360°、俯仰-90~90°
体积： 150x130x22mm
功耗： ≤13W(常温)
重量： ≤520g

射频输出说明：
输出信号频率：1561.098MHz\1575.42MHz
输出功率：-70~-60dBm
输出阻抗：50欧姆

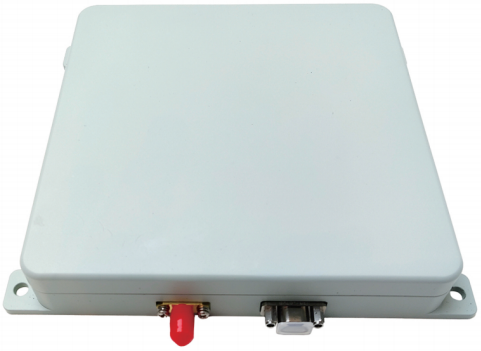
Anti-interference capability:
ISR：Single≥105dBc
Three≥95dBc

Anti-spoofing performance:
Output residual spoofing signal CN0:≤20dB

Interference Type:
Band-limited Gaussian white noise interference,
Spread spectrum matched filter interference
Pulse interference,sweep interference
Mixed interference

Anti-interference airspace\orientation:
0°~360°,pitch:-90°~90°
Volume:150x130x22mm
Power consumption: ≤13w(room temperature)
Weight: ≤520g

RF output description:
Output signal frequency:1561.098MHz\1575.42MHz
RF output power:-70~-60dBm
Output impedance:50 ohms



描述 Description

TX2501-AJS-4CH-DPA小型化双抗一体机是一款面向民用无人机、行业用户需求的小型化卫星导航抗干扰抗欺骗一体机，支持北斗三号GPS L1和BDS B1i双频点信号接收，支持抗宽带干扰能力，抗最大干扰数3，支持抗欺骗能力。内部集成天线阵列、抗干扰组件以及卫星导航接收机，具有小型化、轻量化、低成本等特点。

The TX2501-AJS-4CH-DPA miniaturized dual-antenna integrated device is a compact satellite navigation system designed for civilian drones and industry users.It supports dual-frequency signal reception of BDS B1i and GPS L1,has anti-broadband interference capability with a maximum interference count of 3, and offers anti-spoofing capabilities. The device integrates an antenna array,anti-jamming components,and a satellite navigation receiver, featuring miniaturization,lightweight design and low cost.

七阵元多系统卫星导航抗干扰终端

Seven-Element Multi-System Anti-Jamming Antenna

【TX2504-3T7A21C-WG-DT】

参数 Parameter

抗干扰能力：
单干：≥110dBc
三干：≥100dBc
六干：≥90dBc

干扰类型：
带限高斯白干扰、扩频匹配谱干扰
脉冲干扰、扫频干扰
混合干扰

抗干扰空域、方位： 0~360°、俯仰-90~90°
体积： Φ220x29.5mm
功耗： ≤25W
重量： ≤1200g

射频输出说明：
输出信号频率：1561.098MHz\1575.42MHz\1602MHz
输出功率：-70~-60dBm
输出阻抗：50欧姆

Anti-interference capability:
ISR：Single≥110dBc
Three≥100 dBc
Six≥90dBc

Interference Type:
Band-limited Gaussian white noise interference,
Spread spectrum matched filter interference
Pulse interference,sweep interference
Mixed interference

Anti-interference airspace\orientation:
0°~360°,pitch:-90°~90°
Volume: Φ220x29.5mm
Power consumption: ≤25w
Weight: ≤1200g

RF output description:
Output signal frequency:1561.098MHz\1575.42MHz\1602MHz
RF output power:-70~-60dBm
Output impedance:50 ohms



描述 Description

小型化7阵元多系统卫星导航抗干扰一体机是一款面向民用无人机、行业用户需求的小型化卫星导航抗干一体机，支持BDS+GPS+GLONASS+GALILEO，支持抗宽带干扰能力，抗最大干扰数6。内部集成天线阵列、抗干扰组件以及卫星导航接收机，具有小型化、轻量化、低成本等特点。

The miniaturized 7-element multi-system satellite navigation anti-jamming integrated device is a compact satellite navigation anti-jamming integrated device designed for civilian drones and industry users. It supports BDS+GPS+GLONASS +GALILEO,with anti-broadband jamming capability and a maximum interference resistance of 6.The device integrates an antenna array, anti-jamming components,and a satellite navigation receiver,featuring miniaturization,lightweight design,and low cost.

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十六阵元抗干扰终端

Sixteen-Element Anti-jamming Termina

【TX2511-16A-SNB】

参数 Parameter

抗干扰能力：

单干：≥100dBc

七干：≥85dBc

十五干：≥70dBc

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：230X230X24mm

功耗：≤25W

重量：≤1250g

射频输出说明：

输出信号频率：1561.098MHz\1575.42MHz

输出功率：-70~-60dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥100dBc

Seven≥85dBc

Fifteen≥70dBc

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°，pitch:-90°~90°

Volume:230x230x24mm

Power consumption: ≤25w

Weight: ≤1250g

RF output description:

Output signal frequency:1561.098MHz\

1575.42MHz

RF output power:-70~-60dBm

Output impedance:50 ohms



描述 Description

TX2511-16A-SNB 天线是一款面向行业用户需求的卫星导航抗干扰终端，支持GPS-L1，GAL-E1，BDS-B1 抗压制干扰能力，每个频点抗最大干扰数 15。此外，天线内置接收机，具有高集成化、高性能和高精度等特点。

The TX2511-16A-SNB antenna is an anti-jamming satellite navigation terminal designed for industry users,supporting GPS-L1,GAL-E1,and BDS-B1 frequencies with anti-jamming capabilities. Each frequency point can withstand up to 15 jammers simultaneously. Additionally,the antenna incorporates an integrated receiver, offering high integration, high performance, and high precision.

十六阵元双抗终端

Sixteen-Element Dual Anti-jamming Terminal

【TX2512-AJS-16CH-DPA】

参数 Parameter

抗干扰能力：

单干：≥110dBc

七干：≥95dBc

十五干：≥90dBc

抗欺骗性能：

输出残留欺骗信号CN0：≤20dB

干扰类型：

带限高斯白干扰、扩频匹配谱干扰

脉冲干扰、扫频干扰

混合干扰

抗干扰空域、方位：0~360°、俯仰-90~90°

体积：Φ370x28.7mm

功耗：≤40W (常温)

重量：≤2600g

射频输出说明：

输出信号频率：1561.098MHz\1575.42MHz

输出功率：-70~-60dBm

输出阻抗：50欧姆

Anti-interference capability:

ISR：Single≥110dBc

Seven≥95dBc

Fifteen≥90dBc

Anti-spoofing performance:

Output residual spoofing signal CN0:≤20dB

Interference Type:

Band-limited Gaussian white noise interference,

Spread spectrum matched filter interference

Pulse interference ,sweep interference

Mixed interference

Anti-interference airspace\orientation:

0°~360°，pitch:-90°~90°

Volume:Φ370x28.7mm

Power consumption: ≤40w (room temperature)

Weight: ≤2600g

RF output description:

Output signal frequency:1561.098MHz\

1575.42MHz

RF output power:-70~-60dBm

Output impedance:50 ohms



描述 Description

本产品型号为TX2512-AJS-16CH-DPA是一款面向行业用户需求的卫星导航抗干扰终端，支持 BDS-B1i, GPS-L1抗压制干扰能力，抗最大干扰数 15，支持抗欺骗能力。内部集成天线阵列、抗干扰组件以及卫星导航接收机，服务于无人机、无人车等可靠导航等领域，保护用户终端免受各类无意干扰、恶意攻击，大幅提升 PNT 信息安全性。

TX2512-AJS-16CH-DPA is an industrial-grade satellite navigation anti-jamming terminal supporting BDS-B1i and GPS-L1 frequencies. With anti-suppression(up to 15 jammers) and anti-spoofing capabilities, it integrates an antenna array and receiver to deliver reliable navigation for UAVs and unmanned vehicles, enhancing PNT security against interference and attacks.